

DI
Claim 23. (Twice Amended) A gas generating composition comprising (a) tetrazole derivatives, or at least one guanidine derivative selected from the group consisting of guanidine, guanidine carbonate, nitroguanidine, dicyandiamide, nitroamino-guanidine, and nitroaminoguanidine nitrate and (b) a basic metal nitrate.

Claim 24. (Twice Amended) The gas generating composition of claim 23, further comprising (c) a binder and/or a slag-forming agent.

B
Claim 25. (Amended) A gas generating composition comprising (a) tetrazole derivatives, guanidine derivatives or a mixture thereof, (b) a basic metal nitrate, and (d) a combustion-improving agent.

Claim 26. (Amended) The gas generating composition of claim 25, further comprising (c) a binder and/or a slag-forming agent.

Claim 27. (Amended) The gas generating composition as claimed in Claim 25 or 26, wherein (d) the combustion-improving agent is a component to improve combustion properties of the overall gas generating composition, including a burning rate, a

duration of combustion, and an ignitability.

Claim 28. (Amended) The gas generating composition as claimed in Claim 25 or 26, wherein (d) the combustion-improving agent is at least one selected from the group consisting of silicon nitride, silica, a nitrite, a nitrate, a chlorate or a perchlorate of an alkali metal or an alkaline earth metal, iron (III) hydroxide oxide, copper oxide, iron oxide, zinc oxide, cobalt oxide and manganese oxide.

Claim 29. (Amended) A gas generating composition comprising (a) tetrazole derivatives, guanidine derivatives or a mixture thereof and (b) a basic metal nitrate, said composition meeting at least one requirement selected from the following (1) to (3):

(1) a weight loss ratio of the gas generating composition when the gas generating composition is retained in a closed state at 90°C for 1,000 hours or at 110°C for 400 hours is 2.0 % or less,

(2) concentrations of trace gases contained in a gas generated by the combustion of the gas generating composition, as values measured in a 2,800-liter tank, 400 ppm or less for CO, 40 ppm or less for NO, 8 ppm or less for NO₂ and 100 ppm or less for NH₃, and

(3) a maximum internal pressure in a gas generator on the combustion of the gas generating composition is 7,840 to 22,500 kPa.

Claim 30. (Amended) The gas generating composition of claim 29, further comprising (c) a binder and/or a slag-forming agent.

B' cont

Claim 31. (Amended) The gas generating composition as claimed in Claim 29 or 30, which further comprises (d) a combustion-improving agent which is at least one compound selected from the group consisting of silicon nitride, silica, a nitrite, a nitrate, a chlorate or a perchlorate of an alkali metal or an alkaline earth metal, iron (III) hydroxide oxide, copper oxide, iron oxide, zinc oxide, cobalt oxide and manganese oxide.

Claim 32. (Amended) The gas generating composition as claimed in any one of Claims 23, 25, or 29, wherein the tetrazole derivative as component (a) is at least one selected from the group consisting of tetrazole, 5-aminotetrazole, 5,5'-bi-1H-tetrazole, 5-nitroaminotetrazole, zinc salt of 5-aminotetrazole, copper salt of 5-aminotetrazole, bitetrazole, potassium salt of bitetrazole, sodium salt of bitetrazole, magnesium salt of

bitetrazole, calcium salt of bitetrazole, diammonium salt of bitetrazole, copper salt of bitetrazole and melamine salt of bitetrazole.

B' cont

Claim 33. (Amended) The gas generating composition as claimed in any one of Claims 25 or 29, wherein the guanidine derivative as component (a) is at least one selected from the group consisting of guanidine, mono-, di- or tri-aminoguanidine nitrate, guanidine nitrate, guanidine carbonate, nitroguanidine, dicyandiamide and nitroaminoguanidine nitrate.

Claim 34. (Amended) The gas generating composition as claimed in any one of Claims 23, 25, or 29, wherein the basic metal nitrate as component (b) is at least one selected from the group consisting of a basic copper nitrate, a basic cobalt nitrate, a basic zinc nitrate, a basic manganese nitrate, a basic iron nitrate, a basic molybdenum nitrate, a basic bismuth nitrate and a basic cerium nitrate.

Claim 35. (Amended) The gas generating composition as claimed in any one of Claims 23, 25, or 29, wherein component (b) is a mixture of a basic metal nitrate and at least one other oxidizing agent.

Claim 36. (Amended) The gas generating composition as claimed in Claim 35, wherein component (b) is a mixture of a basic metal nitrate and at least one other oxidizing agent which includes an alkali metal nitrate.

Claim 37. (Amended) The gas generating composition as claimed in Claim 36, wherein when component (b) is a mixture, the alkali metal nitrate contained as at least one other oxidizing agent is potassium nitrate. *QNB*

B' cont
Claim 38. (Amended) The gas generating composition as claimed in Claim 35, wherein when component (b) is a mixture, the content of the basic metal nitrate in the mixture is 55 to 99.9 % by weight.

Claim 39. (Amended) The gas generating composition as claimed in any one of Claims 24, 26, or 30, wherein the binder as component (c) is not crosslinkable.

Claim 40. (Amended) The gas generating composition as claimed in Claim 39, wherein the binder (and/or the slag-forming agent as component (c) is not crosslinkable and at least one selected from the group consisting of carboxymethylcellulose, sodium carboxymethylcellulose, potassium carboxymethylcellulose,

B' cont

ammonium carboxymethylcellulose, cellulose acetate, cellulose acetatebutylate, methyl cellulose, ethyl cellulose, hydroxyethyl cellulose, ethylhydroxyethyl cellulose, hydroxypropyl cellulose, carboxymethylethyl cellulose, fine crystalline cellulose, polyacrylic amide, aminated compounds of polyacrylic amide, polyacrylic hydrazide, a copolymer of an acrylic amide and a metal salt of acrylic acid, a copolymer of polyacrylic amide and polyacrylic ester, polyvinyl alcohol, acrylic rubber, guar gum, starch, polysaccharides including starch, silicone, molybdenum disulfide, Japanese acid clay, talc, bentonite, diatomaceous earth, kaolin, calcium stearate, silica, alumina, sodium silicate, silicon nitrate, silicon carbide, hydrotalcite, mica, a metal oxide, a metal hydroxide, a metal carbonate, a basic metal carbonate and a molybdate.

Claim 41. (Unamended) The gas generating composition as claimed in Claim 40, wherein the metal oxide as component (c) is at least one selected from the group consisting of copper oxide, iron oxide, zinc oxide, cobalt oxide, manganese oxide, molybdenum oxide, nickel oxide and bismuth oxide, the metal hydroxide is at least one selected from the group consisting of cobalt hydroxide and aluminum hydroxide, the metal carbonate or the basic metal carbonate is at least one selected from the group consisting of calcium carbonate, cobalt carbonate, a basic zinc carbonate and a

basic copper carbonate, and the molybdate is at least one selected from the group consisting of cobalt molybdate and ammonium molybdate.

Claim 42. (*Unamended*) The gas generating composition as claimed in Claim 23, which comprises (a) diammonium salt of bitetrazole and (b) a basic copper nitrate.

B / cont
Claim 43. (*Unamended*) The gas generating composition as claimed in Claim 42, which comprises 15 to 45 % by weight of (a) diammonium salt of bitetrazole and 55 to 85 % by weight of (b) a basic copper nitrate.

Claim 44. (*Unamended*) The gas generating composition as claimed in Claim 24, which comprises (a) diammonium salt of bitetrazole, (b) a basic copper nitrate and (c) sodium carboxymethylcellulose.

Claim 45. (*Unamended*) The gas generating composition as claimed in Claim 44, which comprises 15 to 40 % by weight of (a) diammonium salt of bitetrazole, 45 to 80 % by weight of (b) a basic copper nitrate and 0.1 to 15 % by weight of (c) sodium carboxymethylcellulose.

B' cont

Claim 46. (Amended) The gas generating composition as claimed in Claim 24, which comprises (a) diammonium salt of bitetrazole, (b) a basic copper nitrate, (c-1) sodium carboxymethylcellulose and (c-2) selected from the group consisting of carboxymethylcellulose, potassium carboxymethylcellulose, ammonium carboxymethylcellulose, cellulose acetate, cellulose acetatebutylate, methyl cellulose, ethyl cellulose, hydroxyethyl cellulose, ethylhydroxyethyl cellulose, hydroxypropyl cellulose, carboxymethylethyl cellulose, fine crystalline cellulose, polyacrylic amide, aminated compounds of polyacrylic amide, polyacrylic hydrazide, a copolymer of an acrylic amide and a metal salt of acrylic acid, a copolymer of polyacrylic amide and polyacrylic ester, polyvinyl alcohol, acrylic rubber, guar gum, starch, polysaccharides including starch, silicone, molybdenum disulfide, Japanese acid clay, talc, bentonite, diatomaceous earth, kaolin, calcium stearate, silica, alumina, sodium silicate, silicon nitrate, silicon carbide, hydrotalcite, mica, a metal oxide, a metal hydroxide, a metal carbonate, a basic metal carbonate and a molybdate.

Claim 47. (Unamended) The gas generating composition as claimed in Claim 46, which comprises 15 to 35 % by weight of (a) diammonium salt of bitetrazole, 30 to 70 % by weight of (b) a basic copper nitrate, 0.1 to 15 % by weight of (c-1) sodium

carboxymethylcellulose and 1 to 45 % by weight of (c-2).

Claim 48. (*Unamended*) The gas generating composition as claimed in Claim 23, which comprises (a) nitroguanidine and (b) a basic copper nitrate.

Claim 49. (*Unamended*) The gas generating composition as claimed in Claim 48, which comprises 30 to 70 % by weight of (a) nitroguanidine and 30 to 70 % by weight of (b) a basic copper nitrate.

Claim 50. (*Unamended*) The gas generating composition as claimed in Claim 24, which comprises (a) nitroguanidine, (b) a basic copper nitrate and (c) sodium carboxymethylcellulose.

Claim 51. (*Unamended*) The gas generating composition as claimed in Claim 50, which comprises 15 to 55 % by weight of (a) nitroguanidine, 45 to 70 % by weight of (b) a basic copper nitrate and 0.1 to 15 % by weight of (c) sodium carboxymethylcellulose.

Claim 52. (*Amended*) The gas generating composition as claimed in claim 24, which comprises (a) nitroguanidine, (b) a basic copper nitrate, (c-1) sodium carboxymethylcellulose and (c-

B' end
2) selected from the group consisting of carboxymethylcellulose, potassium carboxymethylcellulose, ammonium carboxymethylcellulose, cellulose acetate, cellulose acetatebutylate, methyl cellulose, ethyl cellulose, hydroxyethyl cellulose, ethylhydroxyethyl cellulose, hydroxypropyl cellulose, carboxymethylethyl cellulose, fine crystalline cellulose, polyacrylic amide, aminated compounds of polyacrylic amide, polyacrylic hydrazide, a copolymer of an acrylic amide and a metal salt of acrylic acid, a copolymer of polyacrylic amide and polyacrylic ester, polyvinyl alcohol, acrylic rubber, guar gum, starch, polysaccharides including starch, silicone, molybdenum disulfide, Japanese acid clay, talc, bentonite, diatomaceous earth, kaolin, calcium stearate, silica, alumina, sodium silicate, silicon nitrate, silicon carbide, hydrotalcite, mica, a metal oxide, a metal hydroxide, a metal carbonate, a basic metal carbonate and a molybdate.

Claim 53. (Unamended) The gas generating composition as claimed in Claim 52, which comprises 15 to 50 % by weight of (a) nitroguanidine, 30 to 65 % by weight of (b) a basic copper nitrate, 0.1 to 15 % by weight of (c-1) sodium carboxymethylcellulose and 1 to 40 % by weight of (c-2).

Claim 54. (Unamended) The gas generating composition as claimed in Claim 24, which comprises (a) nitroguanidine, (b) a basic copper nitrate and (c) guar gum.

Claim 55. (Unamended) The gas generating composition as claimed in Claim 54, which comprises 20 to 60 % by weight of (a) nitroguanidine, 35 to 75 % by weight of (b) a basic copper nitrate and 0.1 to 10 % by weight of guar gum.

B' cont

Claim 56. (Amended) The gas generating composition as claimed in Claim 24, which comprises (a) nitroguanidine, (b) a basic copper nitrate, (c-1) guar gum and (c-2) selected from the group consisting of carboxymethylcellulose, sodium carboxymethylcellulose, potassium carboxymethylcellulose, ammonium carboxymethylcellulose, cellulose acetate, cellulose acetatebutylate, methyl cellulose, ethyl cellulose, hydroxyethyl cellulose, ethylhydroxyethyl cellulose, hydroxypropyl cellulose, carboxymethylethyl cellulose, fine crystalline cellulose, polyacrylic amide, aminated compounds of polyacrylic amide, polyacrylic hydrazide, a copolymer of an acrylic amide and a metal salt of acrylic acid, a copolymer of polyacrylic amide and polyacrylic ester, polyvinyl alcohol, acrylic rubber, starch, polysaccharides including starch, silicone, molybdenum disulfide,

Japanese acid clay, talc, bentonite, diatomaceous earth, kaolin, calcium stearate, silica, alumina, sodium silicate, silicon nitrate, silicon carbide, hydrotalcite, mica, a metal oxide, a metal hydroxide, a metal carbonate, a basic metal carbonate and a molybdate.

B' cont
Claim 57. (Unamended) The gas generating composition as claimed in Claim 56, which comprises 20 to 60 % by weight of (a) nitroguanidine, 30 to 70 % by weight of (b) a basic copper nitrate, 0.1 to 10 % by weight of (c-1) guar gum and 0.1 to 10 % by weight of (c-2).

Claim 58. (Amended) The gas generating composition as claimed in Claim 26, which comprises (a) nitroguanidine, (b) a basic copper nitrate, (c) guar gum and (d) a combustion-improving agent.

Claim 59. (Unamended) The gas generating composition as claimed in Claim 58, which comprises 20 to 60 % by weight of (a) nitroguanidine, 35 to 75 % by weight of (b) a basic copper nitrate, 0.1 to 10 % by weight of (c) guar gum and 0.1 to 15 % by weight of (d) a combustion-improving agent.

Claim 60. (*Unamended*) The gas generating composition as claimed in Claim 58 or 59, wherein (d) the combustion-improving agent is silica.

Claim 61. (*Unamended*) The gas generating composition as claimed in Claim 23, which comprises (a) dicyandiamide and (b) a basic copper nitrate.

B' cont
Claim 62. (*Unamended*) The gas generating composition as claimed in Claim 61, which comprises 15 to 30 % by weight of (a) dicyandiamide and 70 to 85 % by weight of (b) a basic copper nitrate.

Claim 63. (*Unamended*) The gas generating composition as claimed in Claim 24, which comprises (a) dicyandiamide, (b) a basic copper nitrate and (c) sodium carboxymethylcellulose.

Claim 64. (*Unamended*) The gas generating composition as claimed in Claim 63, which comprises 15 to 25 % by weight of (a) dicyandiamide, 60 to 80 % by weight of (b) a basic copper nitrate and 0.1 to 20 % by weight of (c) sodium carboxymethylcellulose.

B' cont

Claim 65. (Amended) The gas generating composition as claimed in Claim 24, which comprises (a) dicyandiamide, (b) a basic copper nitrate, (c-1) sodium carboxymethylcellulose and (c-2) selected from the group consisting of carboxymethylcellulose, potassium carboxymethylcellulose, ammonium carboxymethylcellulose, cellulose acetate, cellulose acetatebutylate, methyl cellulose, ethyl cellulose, hydroxyethyl cellulose, ethylhydroxyethyl cellulose, hydroxypropyl cellulose, carboxymethylethyl cellulose, fine crystalline cellulose, polyacrylic amide, aminated compounds of polyacrylic amide, polyacrylic hydrazide, a copolymer of an acrylic amide and a metal salt of acrylic acid, a copolymer of polyacrylic amide and polyacrylic ester, polyvinyl alcohol, acrylic rubber, guar gum, starch, polysaccharides including starch, silicone, molybdenum disulfide, Japanese acid clay, talc, bentonite, diatomaceous earth, kaolin, calcium stearate, silica, alumina, sodium silicate, silicon nitrate, silicon carbide, hydrotalcite, mica, a metal oxide, a metal hydroxide, a metal carbonate, a basic metal carbonate and a molybdate.

Claim 66. (Unamended) The gas generating composition as claimed in Claim 65, which comprises 15 to 25 % by weight of (a) dicyandiamide, 55 to 75 % by weight of (b) a basic copper nitrate, 0 to 10 % by weight of (c-1) sodium

carboxymethylcellulose and 1 to 20 % by weight of (c-2) component (c).

Claim 67. (Unamended) A gas generating composition comprising (a) guanidine nitrate, (b) a basic copper nitrate and (c) sodium carboxymethylcellulose.

B' cont
Claim 68. (Unamended) The gas generating composition as claimed in Claim 67, which comprises 15 to 60 % by weight of (a) guanidine nitrate, 40 to 70 % by weight of (b) a basic copper nitrate and 0.1 to 15 % by weight of (c) sodium carboxymethylcellulose.

Claim 69. (Amended) A gas generating composition comprising (a) guanidine nitrate, (b) a basic copper nitrate, (c-1) sodium carboxymethylcellulose and (c-2) selected from the group consisting of carboxymethylcellulose, potassium carboxymethylcellulose, ammonium carboxymethylcellulose, cellulose acetate, cellulose acetatebutylate, methyl cellulose, ethyl cellulose, hydroxyethyl cellulose, ethylhydroxyethyl cellulose, hydroxypropyl cellulose, carboxymethylethyl cellulose, fine crystalline cellulose, polyacrylic amide, aminated compounds of polyacrylic amide, polyacrylic hydrazide, a copolymer of an acrylic amide and a metal salt of acrylic acid, a copolymer of

polyacrylic amide and polyacrylic ester, polyvinyl alcohol, acrylic rubber, guar gum, starch, polysaccharides including starch, silicone, molybdenum disulfide, Japanese acid clay, talc, bentonite, diatomaceous earth, kaolin, calcium stearate, silica, alumina, sodium silicate, silicon nitrate, silicon carbide, hydrotalcite, mica, a metal oxide, a metal hydroxide, a metal carbonate, a basic metal carbonate and a molybdate.

B' cont
Claim 70. (Unamended) The gas generating composition as claimed in Claim 69, which comprises 15 to 55 % by weight of (a) guanidine nitrate, 25 to 60 % by weight of (b) a basic copper nitrate, 0.1 to 15 % by weight of (c-1) sodium carboxymethylcellulose and 1 to 40 % by weight of (c-2) component (c).

Claim 71. (Amended) The gas generating composition as claimed in Claim 35, which comprises a mixture of a basic copper nitrate and potassium nitrate as component (b).

Sub 1
Claim 72. (Amended) An inflator for an air bag using the gas generating composition as claimed in any one of Claims 23-26, 29, and 30.

Claim 73. (Amended) A molded article in the form of a

B' out
single-perforated cylinder, a porous cylinder, or pellets, the
molded article being obtained from the gas generating composition
as claimed in any one of Claims 23-26, 29, and 30.

Claim 74. (*Unamended*) An inflator for an air bag using the
molded article as claimed in Claim 73.
